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SUMMARY

Panama's fishermen landed an estimated 62,400 metric tons of fish in 1971, with an exvessel value of $11 million, reflecting a steady recovery from the sharp decrease in 1969 when adverse oceanic conditions produced an unusually poor catch (fig. 1).

Shrimp accounted for 88 percent of the value of all landings and earned $11.9 million in foreign exchange in 1971. Finfish constituted the bulk of the 1971 landings and most of them were reduced to fish meal and oil; their exports were valued at $1.2 million.

In 1971 a sardine canning plant began operations but encountered difficulties in meeting competition. To aid that firm, the government established an import quota for canned sardines in 1972. FAO made a fishery survey in 1972 and found stocks of deepwater red shrimp. A series of laws were passed in 1971-72 regulating the development of Panama's shrimp fishery. Plans to replace Panama's shrimp fleet with 40 new vessels were expected to be implemented in early 1973.

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GENERAL CONDITIONS

Panamanian fishery landings, according to FAO, totalled 62,400 metric tons in 1971. According to Panamanian statistics, shrimp landings were 6,345 metric tons with an exvessel value of $9.7 million; 4,980 tons were exported for $12.0 million, and the rest sold locally for $2.1 million. Finfishes accounted for the bulk of the catch, but were of considerably less value to the industry since most of the catch (anchovy and herring) is reduced into fish meal and oil. Because of the lack of cold-store chains, almost all food fish caught by native fishermen are sold in small local markets. Information on the native fishery is not readily available. Panama's per capita consumption of fish and shellfish is estimated at 24 pounds (10.8 kg) per year. Table 1 summarizes Panama's local fishery sales and exports.

Table 1.--Value of local sales and exports, 1970-71

Commodity	1970	1971
	U.S. dollars	
Shrimp:		
Local sales.....	1,958,449	2,095,545
Exports.....	10,168,319	11,952,615
Fish meal:		
Local sales.....	350,374	743,575
Exports.....	789,209	982,365
Fish oil:		
Local sales.....	35,568	91,003
Exports.....	-	248,215
Total.....	13,301,919	16,113,318

Note: Fishmeal & oil are sold locally at a regulated price of $165/ton. Statistics for the value of food fish are not available.

The Panamanian Comptroller General's Office gave a preliminary figure of $8.5 million as the value of the fishing industry in Panama's Gross Domestic Product (GDP) in 1971. This represents 0.9 percent of the total GDP for that year, an 18.1-percent increase over 1970. From these figures, it would appear that fishing is a fast-growing, but relatively unimportant, segment of the Panamanian economy. However, in reality, due to the export earnings of shrimp, the fishing industry is of far greater importance than the GDP statistics indicate.

FISHERIES

Shrimp

Panama's shrimp industry has continued to produce fairly regular landings of shrimp during the past 10 years; between 1962 and 1971, landings generally averaged 5,500 to 6,500 metric tons. Sea bobs (also called titi), Xiphopenaeus riveti and Protrachypene precipua, are the most abundant species caught, but bring relatively low prices. White shrimp, Penaeus occidentalis, the second most abundant species landed, generally bring high returns. Pink shrimp, P. brevirostris, and carabali shrimp, Trachypenaeus byrdi, constitute the rest of the catch. The heaviest landings and exports are made during May-August.

Almost all of Panama's shrimp are exported to the United States; in 1971, 6,300 metric tons were landed and 4,900 tons were exported, and of this total 4,800 tons were exported to the United States. Shrimp exports in 1971 increased in value 17.5 percent over exports in 1970.

Shrimp constitutes the third most valuable export commodity: $12 million in 1971. Although shrimp production may have reached its limit (with the exception of new varieties like deepwater red shrimp), its value has continued to increase with a rising market price. The shrimp catch and exports for the first 7 months of 1972 were running behind the same period in 1971, but the dollar value of shrimp exports for the same period was greater than the previous year.

Fish meal and oil

Production of fish meal and oil fluctuates considerably from year to year because the catch of thread herring and anchovies is influenced by ocean conditions in the Bay of Panama. The catch of these species declines in years when upwellings of cold water occur and there is no rainfall in the Bay. Fish meal production increased by 51 percent in 1971 after two poor seasons in 1969 and 1970. The 1972 production has been about average, and the world market price has been favorable.

Panama has only two fish meal plants: Pesquera Taboguilla, S. A. and Promarina, S. A. Each plant is obligated to supply 50 percent of the total local demand for fish meal and to maintain in stock a 150-ton monthly reserve before they are allowed to export by the Office of Price Regulation. This means that fish meal exports can be suspended whenever Panama has a shortage.

In 1971 International Protein Inc. of New Jersey purchased the fish meal and fish oil plant on Taboguilla Island and reportedly invested more than $500,000 in plant modernization, including a stickwater recovery plant, worker housing, water cisterns, and 12 imported purse seiners. In 1972 International Protein acquired a shrimp processing plant in Panama City, invested in plant modernization, and established a shipyard to build fiberglass shrimp boats for domestic use and export.

Sardines

In 1971, Panama's only sardine canning plant began operations. The plant, managed by Conservas del Mar, S.A., packs large sardines in tomato sauce for the domestic market. The plant represents a $750,000 investment and employs 146 people. However, in 1972 the company announced its decision to cease operations because of reduced demand for its sardines. To protect the jobs of the employees, the government authorized an import quota for sardines in September 1972. The Office of Price Regulation, which authorized the quota, will also control the price of sardines and require the plant to meet quality standards similar to those for sardines previously imported. The plant is now back in operation.

Food Fish

Statistics published by the Comptroller General's Office show that the availability of locally caught fresh fish and shellfish (mainly shrimp) for food consumption increased through 1970 (the most recent year for which data are available). During this same period, imports of salted and canned fish rose. The result has been that in 1970 the average domestic per capita consumption of seafood was 24 percent higher than in 1965. Indications are that this trend is continuing even though the annual per capita consumption is still low compared with many maritime nations. The government is seeking to develop the food fish industry by promoting programs that encourage the preparation and distribution of varieties of fish that are not currently popular. For example, the government sponsors fish cooking demonstrations to introduce housewives to new types of fish. In the future, this promotional campaign will include supermarket demonstrations and TV shows.

NATIVE FISHING AND COOPERATIVES

The campaign to increase local production and consumption of fish has led to increased government support and international assistance for the artisanal fishermen who fish for subsistence and also sell their catches to small local markets. A large part of the program has been devoted to increasing the number of cooperatives (from four in 1968 to 20 at present) where government assistance can be directed. The support provided those cooperatives is expected to increase in the future since the cooperatives allow the individual artisanal fisherman to overcome his main obstacles to commercialization, i.e., lack of refrigeration, storage, and transportation which prevents him from shipping his catch to the larger markets in the interior or to major population centers.

In 1972, a government mission from Taiwan visited Panama to study the artisanal fishing industry and the possibility of providing technical assistance in new fishing methods. There have been several such missions

from other countries in the last few years, but, by far, FAO has provided the largest amount of assistance. The Department of Fisheries in the Ministry of Commerce is also collecting data for the forthcoming visit of a mission from the Inter-American Development Bank (IDB) which will study the possibility of a loan for projects in artisanal fishing.

One of the several cooperatives the Taiwanese mission visited was the El Chorillo Cooperative in Panama City. This cooperative, established in 1965, has grown to where it now has its own refrigeration and icemaking facilities, and has constructed its first steel fishing boat in its own boatyard. The cooperative is now marketing lenguado (a type of sole) for which there previously was no market even though it is considered a valuable food fish in Peru. This fish may also have potential for export, but, at present, the local demand absorbs all the production.

POTENTIAL FISHERIES

Future growth in the fishing industry is impeded by physical limitations (i.e., number of vessels) and fluctuations in catch in the present shrimp and fish meal fisheries; in order to grow, the fishing industry must diversify its operations. Through the discovery of new types of commercial shrimp and fish, Panama is continuing the research activities which it began as a participant in the UNDP/FAO Regional Project of Central America Fishery Development from 1966 to 1971.

In June of 1972 the UNDP signed a 2-year agreement with the Panamanian Government for a follow-up project which is being conducted by FAO. The project includes exploratory fishing by the research vessel Canopus in the Pacific and Atlantic, especially to locate commercial quantities of shrimp beyond 50 fathoms in the Pacific. The FAO vessel has found a deepwater medium-size red shrimp in the Pacific. FAO has also ordered a 36-foot fiberglass boat for inshore fisheries exploration. Another smaller 27-foot boat may be purchased to study on how to promote the artisanal fishery. The project includes development of a local market and the improvement of a distribution system that can take advantage of previously neglected bottomfish and the large amounts of fish discarded by the shrimp trawlers and purse seiners. FAO is supplying several cooperatives with processing equipment and also plans to conduct experiments with a fish bone separator to use the waste from filleted fish.

Assistance may also be given in shark fishing since dried shark has proven to be an acceptable substitute on the Panamanian market for imported cod. Interest in shark fishing in the Bay of Panama developed when the El Chorillo Cooperative found that dried shark meat was very similar to the dried cod that is imported and sold on the local market. However, the artisanal fishermen have been reluctant to fish sharks because of risks involved when using their small boats. FAO plans to introduce drying machines and shark fishing equipment sometime in the future.

A Peruvian industrialist is considering a plan to establish a processing plant for shark meat. Visitors from Japan have shown an interest in importing shark in order to extract from the cartilage of shark heads the substance condrisina, which is reported to have some medicinal value. The Japanese also inquired about the potential for red snapper and red shrimp. A Japanese firm has been authorized to conduct exploratory fishing in Panamanian waters for bonito, skipjack, and related species.

In June 1972, the Government of Panama announced the initiation of an aquaculture program, which is now well underway. This program is being supported by the Ministry of Commerce and Industries with technical assistance from AID and the University of Auburn (State). Designed to stimulate fish consumption and to raise the nutritional level of the people in agrarian settlements and communities, it consists of raising tilapia fingerlings in 33 large hatchery ponds at the National Institute of Agriculture in Divisa and distributing them to agrarian settlements so that they can cultivate them in their own ponds. Construction on the fish ponds at Divisa should be finished by the end of 1972. The program envisions raising tilapia, imported from Puerto Rico and Brazil; however, in the future other varieties of fish and shrimp may be raised. An Auburn University expert is now experimenting with the culture of local varieties of fresh-water shrimp.

INVESTMENT PROJECTS

Two limitations on the expansion of the fishing industry are being removed -- lack of a fishing port and obsolescence of the shrimp fleet. Government investments in these two areas will have a major impact by reducing industry's costs even if no major gains in production are achieved.

In August 1971 the International Bank for Reconstruction & Development (IBRD) made a $3.4 million loan to the Banco Nacional de Panama for the partial financing of a $5.4 million project to renovate the shrimp fleet without actually increasing the total number of boats. The Banco Nacional will administer part of this loan under a credit program for private entrepreneurs so that they can apply the loans to pay for the design and construction of 40 shrimp trawlers. Over a period of 4 years, 10 old wooden boats will be replaced each year with modern steel boats. An FAO consultant will train the fishermen in navigation and in the use of their new equipment. A portion of the loan is already being used in a feasibility study for a new fishing port. The fishing port may also be financed by an IBRD loan.

The Banco Nacional expects that the renovation of the fleet will benefit the 4,600 persons now engaged in the shrimp industry and that the number of people employed in that industry will increase to 6,500 when the project is completed. Further, it should also lower the operating costs of both boat operators and processors. The increased efficiency of the new trawlers should result in an average annual increase of $1.7 million or more in net export earnings.

The Government also plans to stimulate shipbuilding in Panama. Cabinet Decree 219 of October 25, 1971, gives a 15-percent preference to boats constructed in Panama by imposing a tax on foreign vessels imported into Panama. The IBRD loan agreement provides for this preference in evaluating construction bids. The Banco Nacional de Panama accepted bids from pre-qualified bidders; the bidding was closed on January 31, 1973.

Panama's fishing fleet in 1972 consisted of 238 shrimp trawlers and some 20 purse seiners, including six more shrimp boats than the maximum allowed by law because these six boats were under construction when the decree limiting the fleet was issued. Modernization of the shrimp fleet is restricted to replacing existing vessels rather than increasing the size of the fleet. The vessels to be built under the IBRD loan will be 67-foot long, with steel hulls and 230 to 250 hp. engines. In order to protect the potential market for the sale of these IBRD-financed boats, the Government of Panama has prohibited the construction of new boats with more than 250 hp., thus effectively limiting new boats to the size described in the IBRD loan specifications.

BOAT YARDS

The only public shipyard (recently began operating as Construcciones Nacional, S. A.) for repairs is reported to be substantially booked for both new vessel construction and for maintenance jobs. The yard has both steel-hull and wood-hull capability and has a technical assistance agreement with a U.S. Gulf Coast shipbuilder. Another recent development is the establishment of a fiberglass-hull boatyard by International Protein Inc. of New Jersey. Molds and other equipment were obtained from Modern Fiberglass Company of Tampa, Fla., and transported to Panama where both 74-and 81-foot hulls can be fabricated. The International Protein Inc. will use the vessels to supply its fish meal plant and shrimping packing operations.

LEGISLATION

Panama's basic fishing legislation, Law No. 5 of January 17, 1967, will remain in effect until FAO completes its studies of Panama's marine resources. This law limited the number of boats (of more than 20 tons) engaged in shrimp fishing to a maximum of 232 and set up procedures for issuing fishing licenses and inspecting fishing boats.

Recent legislation which affects the fishing industry is the new Labor Code that went into effect April 1972. A special section (Articles 277 and 278) regulates labor relations between the employer and crew on commercial fishing and coastal shipping vessels. The new Labor Code sets forth specific regulations to meet the special needs of fishing vessels. It has not had a severe impact on the labor costs of the fishing and shrimping boat operations. The Code's substantial overtime requirements specifically do not apply to employees who work aboard fishing boats; they are instead given 1 paid day

off for each 8 days at sea. The workers in the fish meal and shrimp packing plants are covered by the provisions for manufacturing industry as a whole. These provisions have caused some problems because the restrictions on the work day and requirements for overtime pay do not allow for tidal and seasonal fluctuations in the plant operations. A local shrimp packing plant has found it necessary to juggle the arrival time of its boats to accommodate a normal work week, but this has not presented a major problem.

A new regulation issued on July 19, 1972, states that only boats constructed in Panamanian shipyards can fish for shrimp in Panamanian waters, with the exception of boats acquired under the IBRD loan. It also limits the horsepower of all shrimp boats constructed after the decree went into effect to 260 hp. (SAE).

In 1970 and 1971, decrees were issued which prohibited shrimp fishing in certain areas during March and April in order to protect white shrimp in their early stages of growth. Although no such decree was issued for 1972, the Department of Marine Resources in the Ministry of Commerce and Industries expects to issue one for 1973.

The results of the 1970 and 1971 regulations showed significant increase not only in the average size of the white shrimp captured in the months after the regulations were in effect, but also in the catch for the year as a whole. This is especially important since the larger shrimp bring a better price.

Table 2.--Quantity and value of Panama's shrimp catch, by species, 1962-71

Year	Quantity					Value
	White	Pink	Carabali	Sea bob	Total	
	Metric tons					US$1.00
1962	1,904	1,418	238	2,014	5,575	4,389,063
1963	1,570	1,315	298	2,398	5,583	3,873,561
1964	2,283	1,138	404	3,229	7,055	5,933,945
1965	2,263	1,322	377	1,887	5,851	5,011,480
1966	2,376	1,164	147	1,954	5,643	5,002,553
1967	2,471	1,283	100	2,589	6,445	6,493,352
1968	1,971	1,923	129	1,976	6,001	6,910,183
1969	1,927	1,128	79	2,513	5,648	7,226,823
1970	1,977	1,173	94	3,649	6,894	7,287,753
1971	1,923	1,385	94	2,941	6,345	9,709,591

Table 3.--Fish landings, purchases for fishmeal and oil production, 1962-71

Year	Landings	Industry sales	Production	
			Fishmeal	Fish Oil
	Metric tons			
1961	6,199	n.a.	n.a.	n.a.
1962	8,803	8,471	1,616	64
1963	7,623	7,336	1,631	30
1964	18,493	18,219	3,437	290
1965	33,292	33,062	5,668	1,410
1966	66,741	66,574	11,532	3,353
1967	65,641	65,521	11,573	4,113
1968	66,738	65,577	10,834	4,248
1969	26,455	21,750	4,078	724
1970	48,806	37,431	6,803	518
1971	55,716	53,768	10,345	1,942

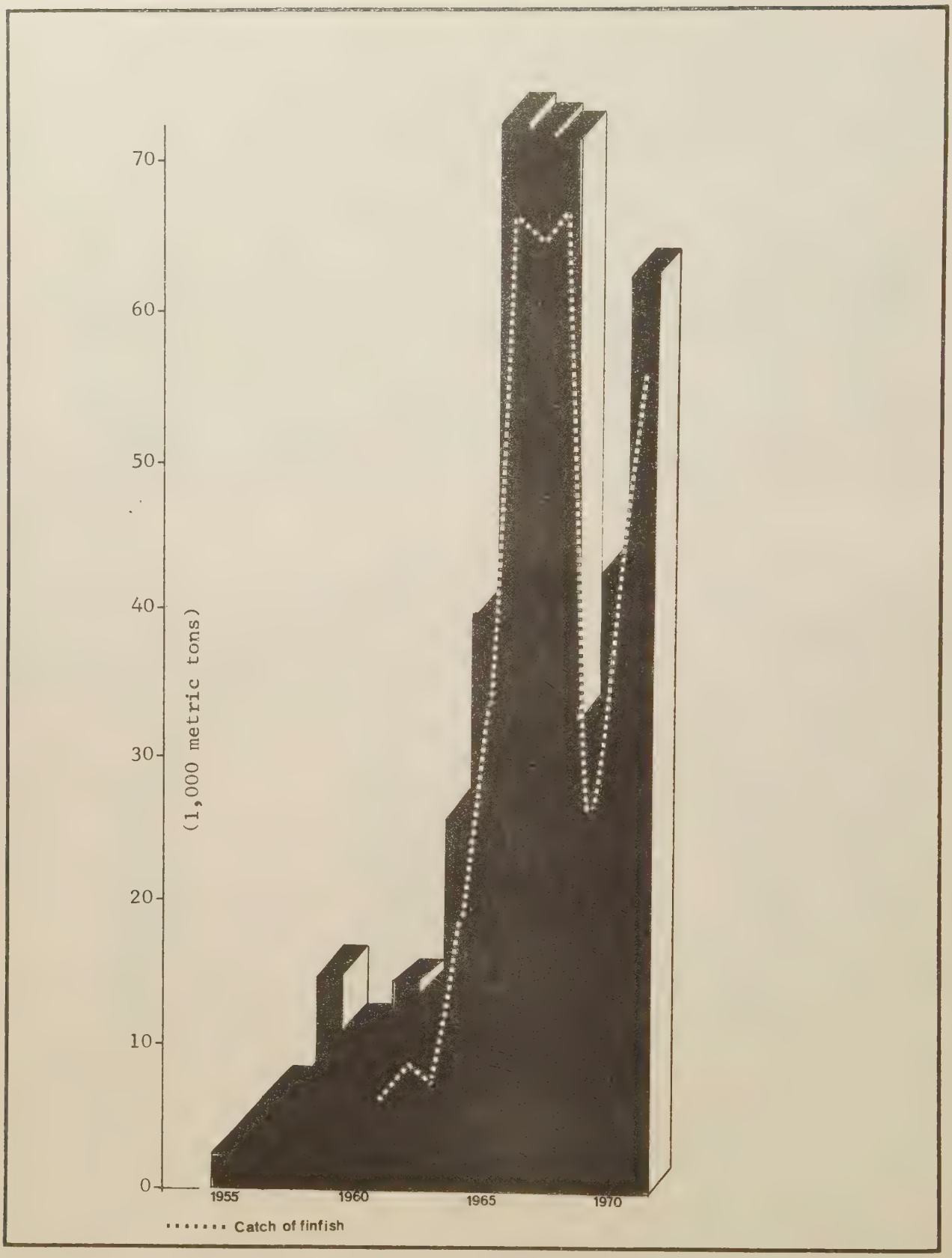

Figure 1.--Panama's catch, 1955-71.

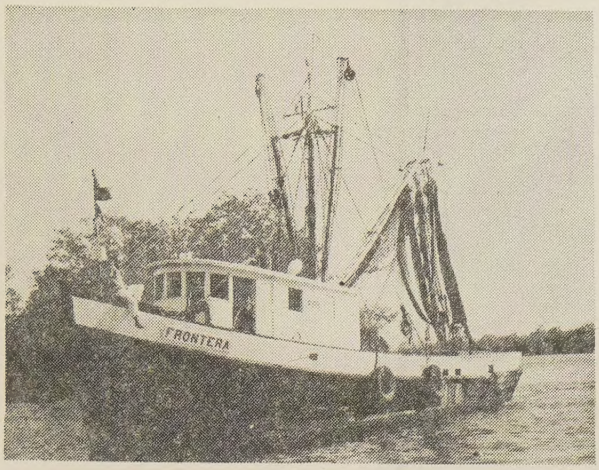

Figure 2.--Shrimp trawler Frontera coming in to unload at Pedregal in Chiriqui Province, Panama.

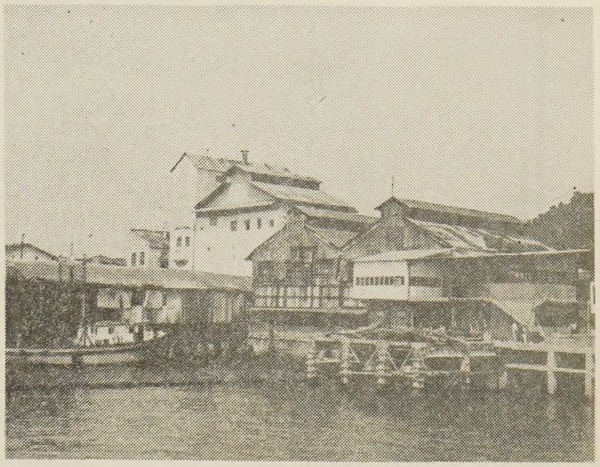

Figure 3.--One of Panama's largest shrimp plants. Inside the plant is clean and modern.

Figure 4.--A 17-foot fiberglass skiff loaded with wire and reed lobster traps.

Figure 5.--A basket of Pacific spiny lobsters Panulirus gracilis held by Norman L. Pease who is currently the U.S. Regional Fishery Attache in Abidjan, Ivory Coast, West Africa.

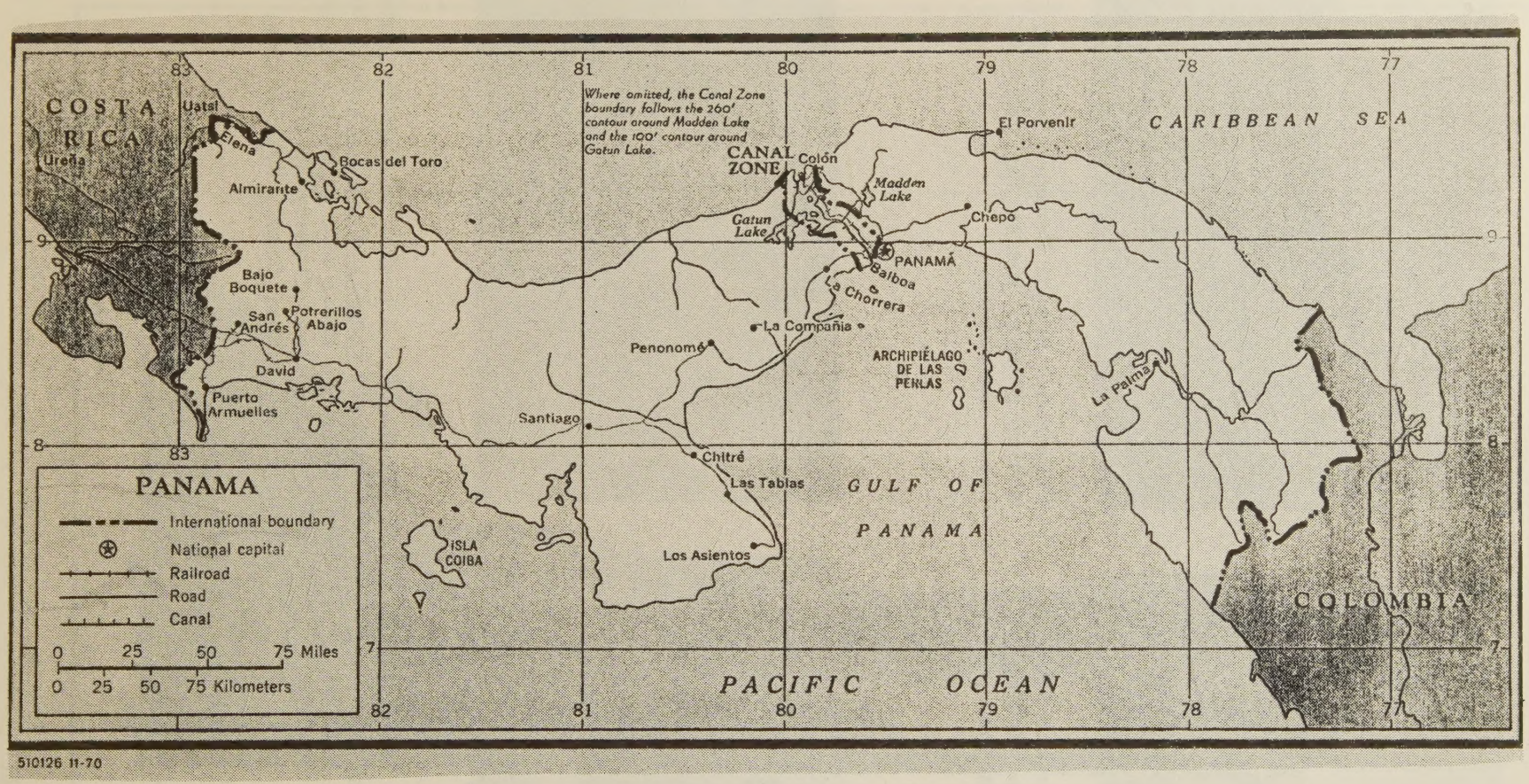

Figure 6. Map of Panama